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**GEELONG
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	deficiency of rainfall between Geelong
	and Bacchus Marsh (conclusion)

G.F.N.C.
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Editorial

We present the 1992 Geelong Bird Report, compiled by Marilyn Hewish, chiefly from records of observations by members of the Bird Group. It is three years since we published the last Report, and I note that we are still fascinated by the flocks of White-browed Woodswallows which pass through in October and November, and Yellow-faced Honeyeaters which visit in April and May. We have no records for Pied Currawongs this time. Does this mean we have become accustomed to them, or that they are no longer common? There are many sightings of Gang-gang Cockatoos, and we should compare these with the records of the Club's 1980 Gang-gang survey. We note the spread of the Common Mynah to East Geelong and through parts of Highton, that we fortunately still have Peregrines in the Geelong region and that there is now a vast colony of Straw-necked Ibis on Mud Islands. The Reports provide a very important continuing picture of the bird life of our district.

Also important is the record of the flora along the Bellarine railway, the results of a survey which the Club carried out during 1989 and 1990. It is now recognised that remnant vegetation in rail and road reserves may be the only true indicator of the original plants of a particular area.

Frogwatch is on, and what a wonderful "froggy" wet time it has had to begin, Gerry Marantelli spoke to the Club about frogs at the September meeting, and inspired many of us to become "frogwatchers". I have been hearing frogs rather than seeing them. They greet me from the lake as I arrive at work and I hear them at home in the garden. Personally, I find it very hard to be certain of a frog's identity just from its call, however carefully I listen to the tape supplied with the wonderful Frogwatch kit. I need to do some recording of my own for comparison. Perhaps the Club could record the local frogs, especially those on the Belmont Common which is our own special area.

Valda Dedman

Geelong Bird Report 1991

Compiled by Marilyn Hewish

Compiled from records of members of the Geelong Field Naturalists Club and its Bird Study Group, and others.

Great Crested Grebe *Podiceps cristatus*

6/4/91	Moolap Saltworks		ALJ
18/10/91	Lake Modewarre	Displaying in pairs	MC
1/12/91	Queenscliff, near bridge		ALJ

Hoary-headed Grebe *Poliocephalus poliocephalus*

1/12/91	Queenscliff yacht moorings	22	ALJ
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Australasian Grebe *Tachybaptus novaehollandiae*

22/1/91	Barwon Valley Fun Park	2 with young	JW
20/6/91	Queens Park Bridge	10+	IS

Little Penguin *Eudyptula minor*

23/9/91	Pt. Addis	12+	RBu
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Shy Albatross *Diomedea cauta*

3/5/91	Pt. Addis	1 beach-washed	IW
14/5/91	Off Pt. Addis	3	?
21/7/91	Fairhaven to Pt. Addis	50+	RBu

Fairy Prion *Pachyptila turtur*

25/2/91	Pt. Addis	Beach-washed	IW
25/8/91	Mud Island	Found dead	IS

Short-tailed Shearwater *Puffinus tenuirostris*

11/12/91	Black Rocks	21 on beach, at least 5 still alive but exhausted	TP
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Fluttering Shearwater *Puffinus gavia*

2/4/91	Airey's Inlet	100s offshore	RBu
23/9/91	Pt. Addis	200+	RBu

Wilson's Storm-Petrel *Oceanites oceanicus*

27/10/91	Off Pt. Lonsdale		SB
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Australian Pelican *Pelecanus conspicillatus*

25/8/91	Mud Island	Nesting, 15 pairs	IS
25/11/91	Barwon Estuary	16	GT

Australasian Gannet *Morus serrator*

25/2/91	Pt Addis	4 beach-washed	IW
5/3/91	Pt Addis	1 beach-washed	IW

Darter *Anhinga melanogaster*

24/2/91	Lake Merrimu	11 active nests (4 with sitting adults, 3 with naked chicks, 2 with downy chicks, 2 with feathered chicks)	MH
4/10/91	Balyang	1	GMc
1/12/91	Gundry's Rd., Anglesea	1	MC

Black-faced Shag *Leucocarbo fuscescens*

17/2/91	Sheepwash, Barwon R.		BL, GT
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Pacific Heron *Ardea pacifica*

25/6/91	Pettavel		DL
16/11/91	Eastern Park	1 overhead. Harrassed by Australian Hobby. First record for park since 1957	CM

White-faced Heron *Ardea novaehollandiae*

7/7/91	Moolap Saltworks	34 in one pond, Alcoa swamp	MH
28/7/91	L. Connewarre	Flock of 15	MH
November	Eastern Park	2 nests	CM

Cattle Egret *Ardeola ibis*

17/2/91	Moolap Saltworks	Early record	VLJ
17/3/91	Edwards Pt	1	CM
24/3/91	Marshall	8	CM
25/3/91	Newtown	1 flying towards Belmont Common	CM
25/3/91	Pt Addis	10 flying towards Bells Beach	RBu
26/3/91	Werribee Tip		RBu
2/4/91	Cathedral Rock, Lorne	7	RBu
April	Belmont Common	100+ on island, after sunset but not dark	CM
April	Mannerim	8-10 in paddock	?
April	Colac	300	IS
April	Moolap	70+	?
April	Pettavel	5	DL
April	Belmont Common	2	?
Early May	Breakwater	100	?
September	Moorabool R. Fyansford		RBa
17/9/91	Fyansford Common	200	RBa
24/9/91	Belmont Common	Many on flooded swamps. Some in breeding plumage	TP
21/12/91	Belmont Common	9. Late record	TP

Rufous Night Heron *Nycticorax caledonicus*

Mid June	Balyang Sanctuary	2 immature	MR
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Australasian Bittern *Botaurus poiciloptilus*

21/5/91	L. Connewarre		GMc
21/5/91	Reedy Lake		GMc
23/6/91	Reedy Lake		MC
19/10/91	Reedy Lake		?

Glossy Ibis *Plegadis falcinellus*

16/10/91	Bacchus Marsh Sewage Farm	93	RD
17/10/91	Bacchus Marsh Sewage Farm	4	RD
18/10/91	Bacchus Marsh Sewage Farm	None left	RD

Sacred Ibis *Threskiornis aethiopica*

24/8/91	Bellbrae	60 feeding	BH
25/8/91	Mud Island	About 500	IS
26/8/91	Bellbrae	100 flying over	BH

Straw-necked Ibis *Threskiornis spinicollis*

25/8/91	Mud Island	2500-5000 nests, 10,000 birds	BE
24/9/91	Murghiboluc	200+ flying west	RBa
24/9/91	Helena St., Highton	50+	RBa

Royal Spoonbill *Platalea regia*

29/1/91	Shelford Rd., Inverleigh	1	LB
7/7/91	Moolap Saltworks	30 in one pond, Alcoa swamp	MH
24/11/91	Eastern Park	1 flushed from I.E.A. lagoon	

CM

26/11/91	Queens Park	1	IS
21/12/91	Mud Island	Juveniles	TP

Yellow-billed Spoonbill *Platalea flavipes*

13/10/91	Swamp S of Inverleigh	21	R7a
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Black Swan *Cygnus atratus*

17/2/91	Moolap Saltworks	1800	MH
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Freckled Duck *Stictonetta naevosa*

26/2/91	Werribee Sewage Farm	28	TP
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Cape Barren Goose *Cereopsis novaehollandiae*

6/3/91	L. Martin, Cressy	6	?
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Pacific Black Duck *Anas superciliosa*

17/2/91	Moolap Saltworks	748	MH
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Grey Teal *Anas gibberifrons*

17/2/91	Moolap Saltworks	2047	MH
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Chestnut Teal *Anas castanea*

17/2/91	Moolap Saltworks	1026	MH
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Black-shouldered Kite *Elanus notatus*

January	Pettavel	2	DL
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17/2/91	Moolap Saltworks		JW
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April	Geelong area	Common	VD
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May	Mt Moriac Cemetery	Nesting	LP
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16/6/91	Eastern Park	1 overhead	CM
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Grey Goshawk *Accipiter novaehollandiae*

21/3/91	Ocean Grove Nature Reserve		DK
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May	Barwon River		?
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6/7/91	Newtown		CM
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21/7/91	Newtown	Chased by 3 Australian Magpies	CM
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3/6/91	Laverton North		CM
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White-bellied Sea-Eagle *Haliaeetus leucogaster*

17/1/91	Werribee		DW
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13/6/91	Lake Borrie	1, sub adult	TP
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29/9/91	Edwards Point	1 immature	DC
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Wedge-tailed Eagle *Aquila audax*

Mid-April	Pettavel		DL
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Mid-April	L. Modewarre	2	DL
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25/5/91	Inverleigh Common	Pair	RBa
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11/7/91	Inverleigh Common	2	RBa
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22/9/91	Inverleigh Common	2	RBa
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Little Eagle *Hieraaetus morphnoides*

12/3/91	Pettavel		DL
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21/7/91	Inverleigh Common		RBa
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22/9/91	Inverleigh Common		RBa
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Spotted Harrier *Circus assimilis*

7/5/91	Werribee Sewage Farm		?
8/5/91	Laverton North		RBu
8/5/91	Werribee Sewage Farm		GMc
17/6/91	Little River, near Manor		RBu
October	Rokewood		BL

Black Falcon *Falco subniger*

31/3/91	Ocean Grove Nature Res.		?
31/3/91	Eastern Park	1 flying W over park. First record	CM
7/4/91	Skeleton Ck		RBu
8/4/91	Avalon Saltworks		?
14/4/91	Moorabool		?
16/4/91	Werribee		RBu
18/4/91	Pettavel		DL
July	Pt Henry	1	MC
18/12/91	Bacchus Marsh	1 hunting over orchard	MH

Peregrine Falcon *Falco peregrinus*

10/3/91	Eastern Park	1 circling overhead	CM
9/5/91	Pettavel		DL
17/5/91	Pt Henry		?
3/6/91	Pt Addis		BL
August	Pettavel	2	DL
10/9/91	Pettavel		DL
24/9/91	Pettavel		DL

Australian Hobby *Falco longipennis*

17/2/91	Eastern Park	Displaying	CM
18/5/91	E. Geelong	Plucking and eating sparrow or honeyeater	MC
10/7/91	Herne Hill		IS
12/10/91	Pettavel	2	DL
19, 27/10	Avalon	Pair nesting, in tree with nesting White-faced Herons	MC
11/11/91	Bacchus Marsh township	1 hunting along line of trees at dusk	MH
14/11/91	Highton	2 calling and displaying	RBa
Nov-Jan	Eastern Park	Successful nesting. 3 chicks fledged (report in preparation)	CM

25/12/91	Princes Bridge, Barwon R.	Pair with 3 young	GMc
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Brown Falcon *Falco berigora*

1/2/91	Belmont	1 being chased by Australian Magpies	BM
6/4/91	Moolap Saltworks		ALJ
11/12/91	Bacchus Marsh township	1 hunting over irrigation channel	MH

Painted Button-quail *Turnix varia*

14/5/91	Ironbark Basin		?
18/6/91	Brisbane Ranges		RBu

Buff-banded Rail *Rallus philippensis*

21/1/91	Barwon R., Fyans Pk	1	TP
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Australian Crane *Porzana fluminea*

6/4/91	Moolap Saltworks	VLJ
20/4/91	Belmont Common	GMc
May	Belmont Common	MC

Spotless Crane *Porzana tabuensis*

17/2/91	Moolap Saltworks	ALJ
14/4/91	Lake Connewarre	GT
31/11/91	Point Henry	MC

In tussock wetland
2 feeding on edge of reeds. Dull
legs, pale throats

Black-tailed Native-hen *Gallinula ventralis*

30/8/91	Serendip	1	TP
24/9/91	Swan Island	1, from 24/9 to at least 14/10	JS

Purple Swampphen *Porphyrio porphyrio*

May	Belmont Common	Washing and eating tubers	MC
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Brolga *Grus rubicundus*

10/2/91	Rokewood Rd, Inverleigh	3	JW
3/6/91	Ombersley		GMa
6/8/91	Rokewood	2	PC
October	Rokewood	4	BL

Bush Thick-knee *Burhinus magnirostris*

3/1/91	Mannerim	1	BL
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Painted Snipe *Rostratula benghalensis*

November	Hospital Lake		LK
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Pied Oystercatcher *Haematopus longirostris*

9/2/91	Mud Island	14	MH
6/8/91	Queenscliff, Maritime Mus.		IW

Sooty Oystercatcher *Haematopus fuliginosus*

9/2/91	Mud Island	1	MH
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Masked Lapwing *Vanellus miles*

30/4/91	Hospital Swamp	Flock of 145	GMc
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Banded Lapwing *Vanellus tricolor*

22/6/91	Pettavel	4	DL
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Grey Plover *Pluvialis squatarola*

9/2/91	Mud Island	350	MH
2/12/91	Werribee Sewage Farm	5	RBu

Lesser Golden Plover *Pluvialis dominica*

9/2/91	Mud Island	61	MH
17/2/91	Moolap Saltworks		VLJ

Red-kneed Dotterel *Erythronyx cinctus*

6/4/91	Moolap Saltworks		ALJ
19/10/91	Alcoa Ponds, Point Henry	Pair doing broken wing act	MC

Hooded Plover *Charadrius rubricollis*

1/12/91	13th Beach, Breamlea	Pair	VLJ
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Mongolian Plover *Charadrius mongolus*

9/2/91	Mud Island	3	MH
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Double-banded Plover *Charadrius bicinctus*

24/3/91	L. Connewarre	Delta Islands, Barwon R.	BL
6/4/91	Moolap Saltworks		VLJ
20/5/91	Breamlea	25	GMc

Red-capped Plover <i>Charadrius ruficapillus</i>			
1/2/91	L. Connewarre	1 with breast band	GMc
1/12/91	Sand Island, Queenscliff	16	VLJ
Banded Stilt <i>Cladorhynchus leucocephalus</i>			
6/4/91	Moolap Saltworks		JW
Red-necked Avocet <i>Recurvirostra novaehollandiae</i>			
6/4/91	Moolap Saltworks		VLJ
Ruddy Turnstone <i>Arenaria interpres</i>			
9/2/91	Mud Island	75	MH
28/10/91	Black Rocks	51	BL
24/11/91	13th Beach	60	BL
Eastern Curlew <i>Numenius madagascariensis</i>			
22/6/91	Moolap Saltworks		ALJ
Whimbrel <i>Numenius phaeopus</i>			
1/12/91	Breamlea	1 beside inlet	ALJ
11/12/91	Black Rocks	1	TP
Wood Sandpiper <i>Tringa glareola</i>			
2/12/91	Werribee Sewage Farm	2	RBu
Common Sandpiper <i>Tringa hypoleucos</i>			
17/2/91	Sheepwash, Barwon R.	2	GT/BL
24/3/91	Sheepwash, Barwon R.	2	BL
12/10/91	Sheepwash, Barwon R.	2	MC
2/12/91	Werribee Sewage Farm	2	RBu
Greenshank <i>Tringa nebularia</i>			
2/12/91	Sand Island, Queenscliff	11	ALJ
Marsh Sandpiper <i>Tringa stagnatilis</i>			
6/4/91	Moolap Saltworks		ALJ
Terek Sandpiper <i>Tringa terek</i>			
27/10/91	Moolap Saltworks		JW
15/11/91	Moolap Saltworks		JW
Latham's Snipe <i>Gallinago hardwickii</i>			
22/6/91	Moolap Saltworks		JW
8/10/91	Belmont Common	24	DL
10/10/91	Belmont Common	74	DL
18/11/91	Drysdale	2	PC
2/12/91	Opp. Balyang Sanctuary	2	DG
Black-tailed Godwit <i>Limosa limosa</i>			
1/12/91	Hospital Lake	1	MC
Bar-tailed Godwit <i>Limosa lapponica</i>			
9/2/91	Mud Island	988	MH
25/8/91	Mud Island	107	BE
Red Knot <i>Calidris canutus</i>			
9/2/91	Mud Island	500	MH
25/8/91	Mud Island	2-3	BE
Great Knot <i>Calidris tenuirostris</i>			
9/2/91	Mud Island	400	MH
25/8/91	Mud Island	1	BE

Sharp-tailed Sandpiper *Calidris acuminata*

9/2/91	Mud Island	167	MH
24/3/91	L. Connewarre	2	BL
6/4/91	Moolap Saltworks		VLJ

Red-necked Stint *Calidris ruficollis*

9/2/91	Mud Island	1044	MH
24/3/91	L. Connewarre	Many in breeding plumage	BL
25/8/91	Mud Island	300	IS

Curlew Sandpiper *Calidris ferruginea*

9/2/91	Mud Island	125	MH
24/3/91	L. Connewarre	Common, delta islands	BL
25/8/91	Mud Island	3	BE

Sanderling *Calidris alba*

11/12/91	Black Rocks	1	TP
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Australian Pratincole *Stiltia isabella*

26/11/91	Werribee Sewage Farm	2	RBu
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Arctic Jaeger *Stercorarius parasiticus*

2/12/91	Werribee Sewage Farm	2	RBu
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Silver Gull *Larus novaehollandiae*

3/3/91	Black Rocks	800, eating flies in seaweed	BL
25/8/91	Mud Island	Egg pale bluish, not dark green	IS

Pacific Gull *Larus pacificus*

7/7/91	Moolap Saltworks	2 resting on water, salt swamp	MH
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White-winged Tern *Chlidonias leucoptera*

12/1/91	Reedy Lake		GMc
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Gull-billed Tern *Gelochelidon nilotica*

28/7/91	L. Connewarre	1 flying over delta islands	MH
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Caspian Tern *Hydroprogne caspia*

20/1/91	Wurdiboluc Reservoir	1	TP
22/1/91	Barwon R., Princes Bridge	1	TP

Common Tern *Sterna hirundo*

25/4/91	Point Henry		GMc
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Fairy Tern *Sterna nereis*

25/8/91	Mud Island	5-6	BE
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Crested Tern *Sterna bergii*

28/7/91	L. Connewarre	2, flying over delta islands	MH
November	Anglesea	33	DG

Black Noddy *Anous minutus*

28/12/91	Airey's Inlet	1	TP
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Spotted Turtle-Dove *Streptopelia chinensis*

August	Bellbrae	4, daily visitors	BH
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Brush Bronzewing *Phaps elegans*

10/9/91	Pettavel		DL
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Crested Pigeon *Ocyphaps lophotes*

12/11/91	Laverton		RBu
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Yellow-tailed Black-Cockatoo *Calyptorhynchus funereus*

21/1/91	Pettavel	4	DL
4/6/91	Anglesea	Dead	IW

August	Bellbrae	5 flying over	BH
5/10/91	Pettavel	8	DL
24/11/91	Bacchus Marsh township	Up to 7, regularly, 24/11 to 22/12	MH,DHe

Gang-gang Cockatoo *Callocephalon fimbriatum*

Early Feb.	Highton		VD
20/2/91	Eastern Park	Up to 40 gather at dusk but don't roost	MC
20/2/91	Verner St., E. Geelong	8 flying N, 7 a.m.	LK
February	Pettavel	14	DL
13/3/91	Highton	50+	RBa
19/3/91	Pettavel	18	DL
April	Pettavel	Present for last 3 weeks	DL
April	Princes Bridge	8	JW
April	Highton	3-50, early morning and late evening	RBa
April	Belmont	2-3 occasionally, mid morning	DS
April	Princes Bridge	12+ during day	TP
April	Forrest		TP
April	Newtown	2s and 3s, late afternoon	?
April	Lovely Banks	6+ flying towards city	?
18/5/91	Herne Hill	Flying over every day	IS
Mid May	E. Geelong	Up to 40 flying over early morning	MC
17/6/91	Eastern Park	30. At dawn. Possibly a roost-site	MC
Late June	Barwon R. Cement Works	25+	IS
1/8/91	Bellbrae	20	BH
3/8/91	Bellbrae	15 at dusk, treetops	BH
8/9/91	Pettavel	2 pairs	DL
4/10/91	Eastern Park	Flock of 13. Feeding on Sugar Gum flowers	CM

Galah *Cacatua roseicapilla*

March	Highton	Flocks of 40-50	RBa
2/5/91	Highton	100+	RBa
4/5/91	Highton	50+	RBa
9/5/91	Highton	120+	RBa
May	Deakin University	70-100	VD
7/6/91	Highton	150+	RBa
August	Bellbrae	50, daily visitors	BH

Long-billed Corella *Cacatua tenuirostris*

26/5/91	Bacchus Marsh township	1 regular, 26/5 to 6/7	MH
1991	Pollocksford Bridge	Regular roost of 200+ throughout year	VD

Sulphur-crested Cockatoo *Cacatua galerita*

10/1/91	Highton	4-25, third consecutive year	RBa
Mid May	Herne Hill	1 in garden	IS
22/6/91	Pettavel	237	DL
August	Bellbrae	3, regular visitors	BH
2/12/91	Highton	12+	RBa
27/12/91	Highton	18+	RBa

Rainbow Lorikeet *Trichoglossus haematodus*

20/1/91	Highton	Personal first record for area	LS
5/6/91	Belmont	Feeding on Liquid Amber seed pods	GMc
May	Belmont	Feeding in eucalypts	VD
May	Highton	7 flying over	LP
May	Belmont	6 in eucalypt	?
May	Ocean Grove	In Bushy Yate in garden	BL
May	Ocean Grove	Many hybrids, Rainbow * Scaly-breasted	BL
20/6/91	Queens Park Bridge	5-10	IS

Lorikeet *Glossopsitta* spp.

5/12/91	Bacchus Marsh township	Mixed roost, Musk (>50), Purple crowned (3) and Little (4), eucalypts in park	MH
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Musk Lorikeet *Glossopsitta concinna*

5/1/91	Bacchus Marsh township	8 feeding in flowering <i>Euc. forrestiana</i>	MH
13/2/91	Bacchus Marsh township	60+ roosting in poplar, 13/2 to 16/2	MH
24/8/91	Visitors Centre, You Yangs	3-10	MC
13/11/91	Bacchus Marsh township	Several flocks, first in area this spring	MH
18/11/91	Bacchus Marsh township	Roost in eucalypts, town park	MH
21/12/91	Bacchus Marsh township	2 feeding on ripening plums, town garden	MH

Purple-crowned Lorikeet *Glossopsitta porphyrocephala*

2/11/91	Bacchus Marsh township	Several flocks, first in area this spring	MH
24/11/91	Belmont		VLJ

Little Lorikeet *Glossopsitta pusilla*

20/11/91	Bacchus Marsh	Flock of 7	MH
23/11/91	Belmont	4	CM

Crimson Rosella *Platycercus elegans*

26/4/91	Bacchus Marsh township	5 feeding on Cotoneaster berries	MH
2/5/91	Highton		VD
2/6/91	Teesdale	Young bird, unusual in this area	DHu

Eastern Rosella *Platycercus eximius*

28/1/91	Teesdale	20 (usually 6 present)	DHu
4/3/91	Highton	3 flying over	RBa
Early March	Eastern Park	1 with 2 Crimson Rosellas	CM
August	Bellbrae	20, daily visitors	BH
10/9/91	Pettavel		DL

Red-rumped Parrot *Psephotus haematotus*

Mid May	Pettavel	34	DL
20/6/91	Leopold	6	JH
September	Buckley's Falls		IS

Blue-winged Parrot *Neophema chrysostoma*

January	Breamlea		TP
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Orange-bellied Parrot *Neophema chrysogaster*

24/3/91	L. Connewarre	3-5, Barwon R. delta islands. Earliest arrival recorded at this location	VD
23/4/91	North Spit, Werribee	2	IS
16/6/91	Freshwater Lake	20	JP
June	Swan Island	35	JS
17/10/91	Swan Island	5	JS

Pallid Cuckoo *Cuculus pallidus*

17/2/91	Sheepwash, Barwon R.	Young bird	GT, BL
13/10/91	Bannockburn		GMc

Fan-tailed Cuckoo *Cuculus phyrrophanus*

11/6/91	Leopold		JH
23/6/91	Queens Park Bridge		IS
14/8/91	Civic Centre, Belmont	Flew into window	VLJ

Black-eared Cuckoo *Chrysococcyx osculans*

10/11/91	Eastern Park	1 silent adult	CM
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Horsfield's Bronze-Cuckoo *Chrysococcyx basalis*

10/9/91	Pettavel		DL
21/9/91	Bacchus Marsh township	1 in town garden	MH
18/10/91	Eastern Park	1 calling adult seen	CM
2/11/91	Bacchus Marsh township	1 in town garden	MH
10/11/91	Bacchus Marsh township	1 in town garden	MH

Shining Bronze-Cuckoo *Chrysococcyx lucidus*

June	Deakin University	1, calling	MC
31/8/91	Winchelsea	First of season, in this area	GMa
5/10/91	Bacchus Marsh township	1 in town garden	MH

Powerful Owl *Ninox strenua*

11/7/91	Brisbane Ranges	Calling from hollow	GMc
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Southern Boobook *Ninox novaeseelandiae*

15/5/91	Pt. Henry		?
July	Leopold cemetery		JH
1/7/91	Manifold Heights	Daytime roost	SR

White-throated Needletail *Hirundapus caudacutus*

3/3/91	Birregurra Rd, Forrest	Flock	FW
16/10/91	Herne Hill	300+ heading N ahead of storm	IS

Laughing Kookaburra *Dacelo novaeguineae*

August	Bellbrae	3, regular visitors	BH
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Sacred Kingfisher *Halcyon sancta*

21/3/91	Werribee		RBu
1/12/91	Queens Park Bridge		IS
Mid June	Balyang Sanctuary		MR
20/6/91	Queens Park Bridge		IS
18/11/91	Highton		PS

Rainbow Bee-eater *Merops ornatus*

28/1/91	Inverleigh	12, third consecutive year	RBa
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Singing Bushlark *Mirafra javanica*

12/5/91	Little River		RBu
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Skylark *Alauda arvensis*

30/5/91	Highton		RBa
21/6/91	Pettavel	57	DL
22/6/91	Moolap Saltworks		JW

Barn Swallow *Hirundo rustica*

Mid June	Werribee Sewage Farm		FSperTP
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Welcome Swallow *Hirundo neoxena*

6/3/91	Bacchus Marsh township	Flocks (up to 24) gathering on telegraph wires, 6/3 to 17/3	MH
		12, return after winter	BH

Black-faced Cuckoo-shrike *Coracina novaehollandiae*

27/6/91	Pettavel	5	DL
15/9/91	Angahook N.P.	Flock of about 20	MC
November	Eastern Park	Nesting	CM

White-winged Triller *Lalage sueurii*

16/10/91	Queens Park Bridge	2	IS
17/11/91	Eastern Park	1 adult male calling	CM

White's Thrush *Zoothra dauma*

14/7/91	Brisbane Ranges	2	RBu
July	Ocean Grove Nature Res.	3	BL

Blackbird *Turdus merula*

30/10/91	Newtown	Bird with white tail feather	IS
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Song Thrush *Turdus philomelos* (Note: Ira Savage is compiling a report on this species in Geelong, and would welcome further observations)

31/1/91	Highton	Personal first record for area	HC
March	Herne Hill		IS
March	Highton		PS
Mid May	Herne Hill		IS
20/6/91	Queens Park Bridge		IS
3/7/91	Newtown	1 calling	CM
8/7/91	Fairbrae Ave.		CM
18/7/91	Queens Park		CM
July	Highton	2	RBa
3/8/91	Belmont		VLJ
4/10/91	Eastern Park	1 in Botanic Gardens	CM
10/11/91	Connor St., E. Geelong	1 singing from high points. Flew off to E. Only record since Sept. 1980	MC

Rose Robin *Petroica rosea*

31/3/91	Botanic Gardens	Male	CM
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Pink Robin *Petroica rodinogaster*

31/3/91	Ocean Grove	First sighting of season	BL
17, 24/8	Eastern Park	1	MC

Flame Robin *Petroica phoenicea*

4/1/91	Winchelsea	Unusual in summer	LM
10/2/91	Winchelsea	Unusual in summer	LM
22/6/91	Pettavel	Pair	DL

Scarlet Robin *Petroica multicolor*

18/8/91	Steiglitz	2 males chasing each other	CM
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Red-capped Robin *Petroica goodenovii*

29/9/91 You Yangs Male and female BL

Hooded Robin *Melanodryas cucullata*

29/9/91 You Yangs 1 male TP

Eastern Yellow Robin *Eopsaltria australis*

August Bellbrae 5 BH

19/10/91 Stonely Ck, Brisbane Ranges 1 sitting. Nest behind loose bark on trunk MC

Golden Whistler *Pachycephala pectoralis*

1/4/91 Highton 2 immature birds in garden LS

April Ocean Grove Nature Reserve Juveniles in small flocks BL

June Highton 1 immature PS

Grey Shrike-thrush *Colluricincla harmonica*

12/3/91 Bacchus Marsh township 1, regular in garden, 12/3 to 11/5 MH

22/6/91 Pettavel DL

24/8/91 Bacchus Marsh township 1 in town garden MH

August Pettavel 1 adult with 3 young DL

August Bellbrae 3 BH

Satin Flycatcher *Myiagra cyanoleuca*

17/3/91 Eastern Park 1 female drinking from and bathing in dew on *Callistemon* foliage, Botanic Gardens CM

Rufous Fantail *Rhipidura rufifrons*

10/3/91 Eastern Park 1 silent bird in Botanic Gardens CM

Grey Fantail *Rhipidura fuliginosa*

21/4/91 Newtown CM

October Deakin University MC

Willie Wagtail *Rhipidura leucophrys*

May Barwon River 1 feeding within 1 metre of traffic DS

Spotted Quail-thrush *Cinclosoma punctatum*

3/6/91 Brisbane Ranges RBu

18/6/91 Brisbane Ranges Pair RBu

Clamorous Reed-Warbler *Acrocephalus stentoreus*

6/4/91 Moolap Saltworks JW

18/6/91 Barwon River GMc

Little Grassbird *Megalurus gramineus*

10/11/91 Eastern Park 1 silent bird flushed from I.E.A. lagoon CM

Rufous Songlark *Cinclorhamphus mathewsi*

17/12/91 Bannockburn Pair GMc

Brown Songlark *Cinclorhamphus cruralis*

12/5/91 Little River RBu

Rufous Bristlebird *Dasyornis broadbenti*

14/5/91 Ironbark Basin ?

Speckled Warbler *Sericornis sagittatus*

3/6/91 Brisbane Ranges RBu

18/8/91 Steiglitz 2-3 CM

Brown Thornbill *Acanthiza pusilla*

23/1/91 Bacchus Marsh township 1 in eucalypt in garden, 23/1 to 7/2 MH

23/8/91	South Valley Rd	2 on power line, holding nesting material	RBa
Brown Treecreeper <i>Climacteris picumnus</i>			
19/10/91	Stoney Ck, Brisbane Ranges	Pair with nest. Birds entered head first, pausing to show barred undertail	MC
Red Wattlebird <i>Anthochaera carunculata</i>			
3/4/91	Highton	20+ flying NW	RBa
Spiny-cheeked Honeyeater <i>Ancathagenys rufogularis</i>			
12/5/91	Lethbridge	3	GB
4/6/91	Hoppers Crossing		RBu
6/8/91	Hoppers Crossing		RBu
August	Pettavel	2	DL
Noisy Miner <i>Manorina melanocephala</i>			
22/9/91	Inverleigh Common	Nesting	RBa
Yellow-faced Honeyeater <i>Lichenostomus chrysops</i>			
14/4/91	Newtown	Flocks flying towards river	CM
15/5/91	Ocean Grove Nature Reserve	100s moving east	?
Singing Honeyeater <i>Lichenostomus virescens</i>			
1/12/91	Queenscliff, yacht moorings	3	ALJ
Yellow-tufted Honeyeater <i>Lichenostomus melanops</i>			
15/9/91	Stoney Ck, Brisbane Ranges	8+	BL
Black-chinned Honeyeater <i>Melithreptus gularis</i>			
24/8/91	You Yangs	10-20 feeding in Yellow Gums	MC
White-naped Honeyeater <i>Melithreptus lunatus</i>			
September	Highton		VD, RW
New Holland Honeyeater <i>Phylidonyris novaehollandiae</i>			
16/6/91	McIntyre St, E. Geelong	Feeding on fallen apples under tree	RBa
August	Bellbrae	2, regular visitors	BH
Tawny-crowned Honeyeater <i>Phylidonyris melanops</i>			
14/5/91	Ironbark Basin		?
White-fronted Chat <i>Ephthianura albifrons</i>			
20/6/91	Pettavel	38+	DL
Mistletoebird <i>Dicaeum hirundinaceum</i>			
31/8/91	Highton		?
Silveryeye <i>Zosterops lateralis</i>			
21/1/91	Highton	Flock	VD
3/5/91	Highton	Flock moving through. Tasmanian form.	LP
20/6/91	Queens Park Bridge	30+. Tasmanian form.	IS
European Goldfinch <i>Carduelis carduelis</i>			
28/7/91	L. Connewarre	60, including one flock of 40	MH
European Greenfinch <i>Carduelis chloris</i>			
20/9/91	Bacchus Marsh township	Regular, small numbers, 20/9 to 23/12	MH
Diamond Firetail <i>Emblema guttata</i>			
22/9/91	Inverleigh Common		RBa
Zebra Finch <i>Poephila guttata</i>			
12/5/91	Little River		RBu

Common Starling *Stumus vulgaris*

25/3/91	Ocean Grove	With Swallows and Woodswallows	GT
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Common Mynah *Acridotheres tristis*

11/6/91	2km N Grasstree Pk, Torquay		RBa
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31/8/91	Highton	Many coming into roost in trees in shopping centre at dusk	TP
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14/9/91	Helena St., Highton	7	RBa
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6/10/91	Connor St., E. Geelong	First record	MC
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24/12/91	Connor St., E. Geelong	Now consistently present	MC
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Olive-backed Oriole *Oriolus sagittatus*

15/9/91	Stoney Ck, Brisbane Ranges		BL
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22/9/91	Inverleigh Common		RBa
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White-winged Chough *Corcorax melanorhamphos*

February	Steiglitz	50	?
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15/3/91	You Yangs	60 in flock	TP
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Australian Magpie-lark *Grallina cyanoleuca*

4/8/91	Highton	15-20 on power lines	RBa
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White-browed Woodswallow *Artamus superciliosus*

5/10/91	Lara	6500	PC
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5/10/91	East Belmont	400+, mainly moving W and NW	CM
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5/10/91	Newtown	8 moving NW, 20 moving W	CM
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13/10/91	Inverleigh Common	2	RBa
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15/10/91	Laverton	350-400	RBu
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15/10/91	Newtown	2700 flying NW	PC
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15/10/91	Eastern Park	4500-5000 flying over, late afternoon	GB
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19/10/91	Queens Park	50 moving N	CM
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20/10/91	Newtown	50 moving N, very high	CM
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20/10/91	Bannockburn	Large flock	GMc
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30/10/91	Eastern Park	16:00 h, 100+ moving S then NW	
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		19:00 h, 50+ moving W	CM
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15/11/91	Bannockburn	Nesting	GMc
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24/11/91	Newtown	15:00 h, about 50, moving N very high	CM
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		15.45 h, about 50 moving N	CM
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25/11/91	Newtown	100s	RBu
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25/11/91	Little River		
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Dusky Woodswallow *Artamus cyanopterus*

21/4/91	Newtown	Heard	CM
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3/5/91	Highton	3. Also 4/6 and 23/7/91; apparently over-wintered	TP
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4/6/91	Highton	3	TP
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23/7/91	Highton	3	TP
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6/8/91	Highton		PS
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31/8/91	Highton		?
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16/10/91	Queens Park Bridge		IS
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5/11/91	Fyansford	Building nest	IS
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27/11/91	Bacchus Marsh township	1 in town park	MH
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1/12/91	Queens Park Bridge	Young	IS
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Australian Magpie *Gymnorhina tibicen*

7/5/91	Bell Post Hill	150 flying towards Geelong	?
22/9/91	Inverleigh Common	Nesting	RBa

Australian Raven *Corvus coronoides*

28/8/91	Belmont	Eating seeds of pine cones	IS
20/10/91	Highton	Attacking pups	IW

Contributors

GB	Grant Baverstock	BM	Bev McNay
LB	Lyn Beardsley	CM	Craig Morley
RBa	Ray Baverstock	GMa	Geoff Mathison
RBu	Rohan Bugg	GMc	Gordon McCarthy
SB	Simon Bennett	LM	Lauris Mathison
DC	David Cass	JP	John Pratt
HC	Heather Chisolm	LP	Lorraine Phelan
MC	Margaret Cameron	TP	Trevor Pescott
PC	Peter Coates	MR	Merle Reed
RD	Russell Dodemaide	SR	Stan Rowe
VD	Valda Dedman	DS	Dick Southcombe
BE	Brendan Edgar	FS	Fred Smith
DG	Dennis Greenwell	IS	Ira Savage
BH	Brian Hollis	JS	Jonathon Starks
DHe	Dean Hewish	LS	Lily Sherwood
DHu	Dianne Hughes	PS	Penny Smith
JH	Joanne Heatlie	GT	Graeme Tribe
MH	Marilyn Hewish	DW	D. Whelan
DK	David King	FW	Fay Wray
LK	Liz Kerr	IW	Ian Woodland
BL	Barry Lingham	JW	Joyce Ward
DL	Don Larcombe	RW	Roy Whiteside
ALJ	Auban Lloyd-Jones	?	Observer not recorded
VLJ	Valerie Lloyd-Jones		

Acknowledgements With thanks to the contributors. A draft of this report was checked and additional records contributed by Ray Baverstock, Rohan Bugg, Margaret Cameron, Valda Dedman, Barry Lingham, Alban and Valerie Lloyd-Jones, Gordon McCarthy, Craig Morley, Trevor Pescott, Ira Savage and Joyce Ward.

Marilyn Hewish
74 Wellington St.,
Bacchus Marsh. Vic. 3340

Geelong Field Naturalists Club Inc.

Survey - Bellarine Peninsula Railway Reserve Flora

1989-1990

Six studies, of approximately two hours each, were conducted. Members listed species of indigenous and introduced flora along the railway reserve, between (approximately) 2.30 p.m. and 4.30 p.m. on the dates listed.

Plant Identification Leila Ramsay and Winston Huggins.

STUDY 1 10th October 1989

Location: Anderson's Road intersection with railway working South-East (towards Queenscliff) to 13 Km post.

Weather: Wet, windy

Participants: Leila Ramsay, Betty Quirk, Diana Primrose, Lily Sherwood.

STUDY 2 11th November 1989

Location: Swan Bay Road intersection with railway, working North (towards Drysdale) to the trestle bridge.

Weather: Fine, sunny

Participants: Leila Ramsay, Winston Huggins, Diana Primrose, and others.

STUDY 3 9th December 1989

Location: Swan Bay Road intersection with railway, working South-East (towards Queenscliff).

Weather: Hot, dry, 30°C

Participants: Leila Ramsay, Cecily Lawrie, Diana Primrose, Les Barrow

STUDY 4 15th September 1990

Location: As for Study 1

Weather: Cool, chilly wind

Participants: Leila Ramsay, Cecily Lawrie, Kathie Deprez, Diana Primrose.

STUDY 5 12th October, 1990

Location: As for Study 2

Weather: Sunny day, chilly wind, preceded by a week of steady rain.

Participants: Leila Ramsay, Betty Quirk, Diana Primrose, Peter Sullivan.

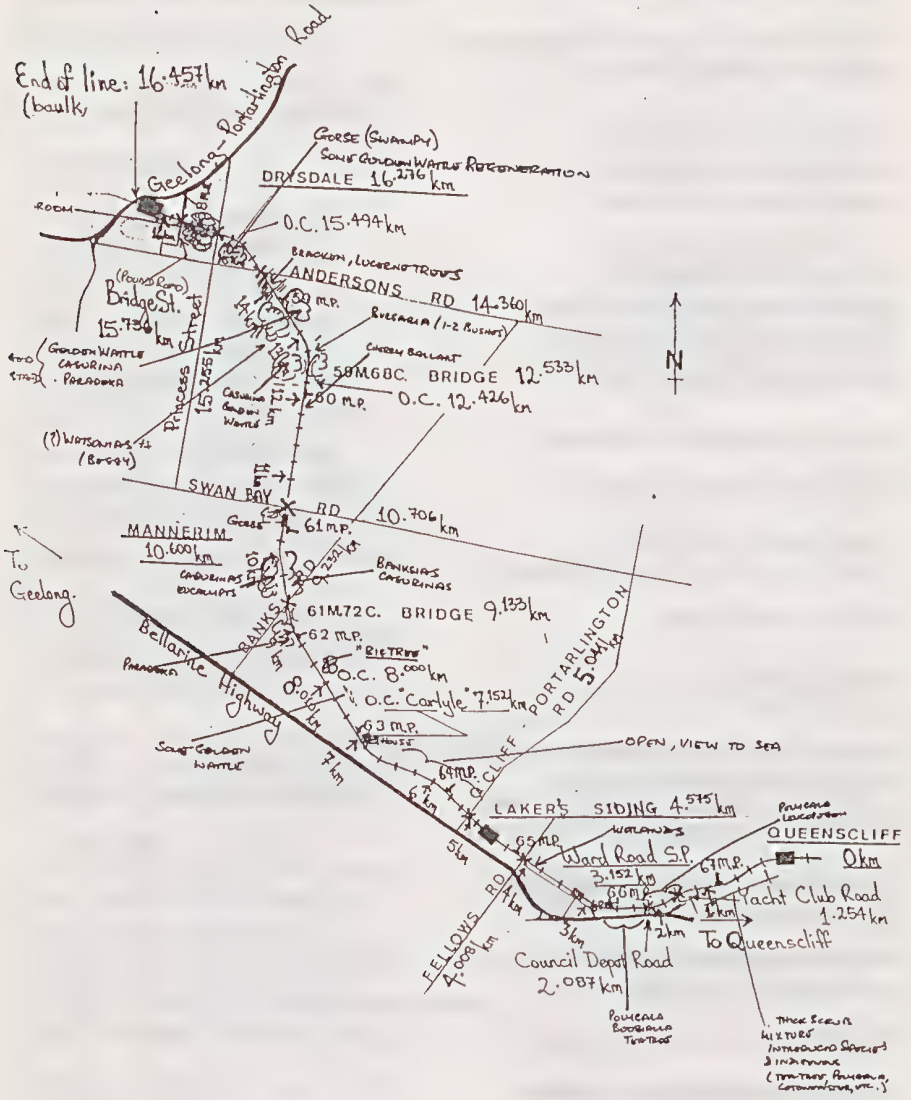
STUDY 6 10th November 1990

Location: As for Study 3.

Weather: Cold, wet, gale force winds, hail, rain, intermittent sunshine.

Participants: Leila Ramsay, Winston Huggins, Carleen Huggins, Lily Sherwood, Cecily Lawrie, Kathy Deprez, Diana Primrose.

Report by Diana Primrose, P.O. Box 1412, Geelong, 3220.



FERNS & MONOCOTYLEDONS

Adiantum aethiopicum (Common maiden hair fern)
Burchardia umbellata (Milk maids)

Caesia calliantha (Blue grass lily)
Caesia parviflora (Pale green lily)
Chamaescilla corymbosa (Blue squill)
Cyperus tenellus (Tiny flat sedge)

Danthonia laevis (Wallaby grass)
Danthonia linkii (Wallaby grass)
Dianella revoluta (Black anther flax lily)
Dichopogon strictus (Chocolate lily)
Diuris corymbosa (Wallflower orchid)
Diuris lanceolata (Golden months)

Eleocharis acuta (Common spike-rush)

Gahnia radula (Thatch saw sedge)

Hypoxis glabella (Yellow star)
Hypoxis hygrometrica (Golden water glass)

Isolepis sp. (Club rush sp.)

Juncus filicaulis (Thread rush)
Juncus pallidus (Pale rush)

Lepidosperma laterale (Variable sword sedge)
Lomandra filiformis (Wattle mat rush)
Lomandra longifolia (Spiny-headed mat rush)
Lomandra multiflora (Many flowered mat rush)

Microtis parviflora (?) (Slender onion orchid)
Microtis unifolia (Common onion orchid)

Poa sieberiana (labillardiera) (Tussock grass)
Pteridium esculentum (Austral bracken)

Stipa scabra var. *falcata* (Spear grass)

Thelymitra pauciflora (Slender sun orchid)
Thelymitra sp. (? *aristata* ? *nuda*)
Themeda triandra (Kangaroo grass)
Tricoryne elatior (Yellow rush lily)

	1989			1990		
	10/11	11/11	9/12	15/9	12/10	10/11
<i>Adiantum aethiopicum</i> (Common maiden hair fern)		*				
<i>Burchardia umbellata</i> (Milk maids)	*	*		*	*	*
<i>Caesia calliantha</i> (Blue grass lily)		*	*			
<i>Caesia parviflora</i> (Pale green lily)			*			
<i>Chamaescilla corymbosa</i> (Blue squill)	*				*	
<i>Cyperus tenellus</i> (Tiny flat sedge)		*			*	*
<i>Danthonia laevis</i> (Wallaby grass)		*				
<i>Danthonia linkii</i> (Wallaby grass)						*
<i>Dianella revoluta</i> (Black anther flax lily)	*	*	*	*	*	*
<i>Dichopogon strictus</i> (Chocolate lily)	*	*		*	*	*
<i>Diuris corymbosa</i> (Wallflower orchid)	*					
<i>Diuris lanceolata</i> (Golden months)				*		
<i>Eleocharis acuta</i> (Common spike-rush)						*
<i>Gahnia radula</i> (Thatch saw sedge)			*			*
<i>Hypoxis glabella</i> (Yellow star)				*		
<i>Hypoxis hygrometrica</i> (Golden water glass)		*				
<i>Isolepis</i> sp. (Club rush sp.)						*
<i>Juncus filicaulis</i> (Thread rush)		*				
<i>Juncus pallidus</i> (Pale rush)	*		*	*	*	*
<i>Lepidosperma laterale</i> (Variable sword sedge)						*
<i>Lomandra filiformis</i> (Wattle mat rush)		*				*
<i>Lomandra longifolia</i> (Spiny-headed mat rush)		*	*	*	*	*
<i>Lomandra multiflora</i> (Many flowered mat rush)		*	*	*		*
<i>Microtis parviflora</i> (?) (Slender onion orchid)		*				
<i>Microtis unifolia</i> (Common onion orchid)		*			*	*
<i>Poa sieberiana</i> (labillardiera) (Tussock grass)		*				
<i>Pteridium esculentum</i> (Austral bracken)	*	*				*
<i>Stipa scabra</i> var. <i>falcata</i> (Spear grass)		*			*	*
<i>Thelymitra pauciflora</i> (Slender sun orchid)		*				
<i>Thelymitra</i> sp. (? <i>aristata</i> ? <i>nuda</i>)						*
<i>Themeda triandra</i> (Kangaroo grass)	*	*	*	*	*	*
<i>Tricoryne elatior</i> (Yellow rush lily)		*	*			*

FERNS & MONOCOTYLEDONS (Cont'd)

Wurmbea dioica (Early Nancy)

Xanthorrhoea australis (Austral grass tree)

Xanthorrhoea minor (Small grass tree)

DICOTYLEDONS

Acacia melanoxylon (Blackwood)

Acacia implexa (Lightwood)

Acacia longifolia (Sallow wattle)

Acacia meamsii (Black wattle)

Acacia paradoxa (Hedge wattle)

Acacia pycnantha (Golden wattle)

Acacia verticillata (Prickly Moses)

Acaena anserinifolia (Bidgee widgee)

Acaena echinata (Sheep's burr)

Acrotriche serrulata (Honey pots)

Allocasuarina littoralis (Blach sheoak)

Allocasuarina verticillata (Drooping sheoak)

Ampera xiphioclada (Brown spurge)

Astroloma humifusum (Cranberry heath)

Banksia marginata (Silver banksia)

Bossiaea prostrata (Creeping bossiaea)

Brunonia australis (Blue pincushion)

Bursaria spinosa (Sweet bursaria)

Convolvulus erubescens (Pink/Blushing bind weed)

Crassula pedicellosa (Stalked crassula)

Crassula sieberana (Sieber crassula)

Daviesia latifolia (Hop bitter pea)

Dillwynia glaberrima (Smooth parrot pea)

Dillwynia sericea (Showy parrot pea)

Drosera auriculata (Tall sundew)

Drosera glanduligera (Scarlet sundew)

Drosera peltata (Pale sundew)

Drosera macrantha (planchonii) (Climbing Sundew)

Drosera whittakeri (Scented sundew)

Epilobium billardierianum ssp. cinereum
(Hairy willow herb)

Eucalyptus ovata (Swamp gum)

Eucalyptus viminalis (Manna gum)

Exocarpus cupressiformis (Cherry ballart)

	1989			1990		
	10/11	11/11	9/12	15/9	12/10	10/11
Wurmbea dioica (Early Nancy)	*			*	*	
Xanthorrhoea australis (Austral grass tree)	*		*	*		
Xanthorrhoea minor (Small grass tree)	*	*			*	
Acacia melanoxylon (Blackwood)						*
Acacia implexa (Lightwood)	*		*	*	*	
Acacia longifolia (Sallow wattle)	*				*	
Acacia meamsii (Black wattle)		*			*	
Acacia paradoxa (Hedge wattle)	*	*	*	*	*	*
Acacia pycnantha (Golden wattle)	*	*	*	*	*	*
Acacia verticillata (Prickly Moses)				*		
Acaena anserinifolia (Bidgee widgee)	*			*	*	
Acaena echinata (Sheep's burr)	*	*	*	*	*	*
Acrotriche serrulata (Honey pots)					*	
Allocasuarina littoralis (Blach sheoak)	*		*	*	*	*
Allocasuarina verticillata (Drooping sheoak)		*	*		*	*
Ampera xiphioclada (Brown spurge)				*		
Astroloma humifusum (Cranberry heath)		*				
Banksia marginata (Silver banksia)	*	*	*	*	*	*
Bossiaea prostrata (Creeping bossiaea)		*	*		*	
Brunonia australis (Blue pincushion)		*				
Bursaria spinosa (Sweet bursaria)		*			*	
Convolvulus erubescens (Pink/Blushing bind weed)		*				
Crassula pedicellosa (Stalked crassula)		*				
Crassula sieberana (Sieber crassula)		*				
Daviesia latifolia (Hop bitter pea)	*	*	*	*	*	*
Dillwynia glaberrima (Smooth parrot pea)	*	*		*	*	*
Dillwynia sericea (Showy parrot pea)		*				
Drosera auriculata (Tall sundew)	*	*		*	*	*
Drosera glanduligera (Scarlet sundew)	*			*	*	
Drosera peltata (Pale sundew)	*			*	*	
Drosera macrantha (planchonii) (Climbing Sundew)		*				
Drosera whittakeri (Scented sundew)					*	
Epilobium billardierianum ssp. cinereum (Hairy willow herb)			*			
Eucalyptus ovata (Swamp gum)		*			*	*
Eucalyptus viminalis (Manna gum)			*			*
Exocarpus cupressiformis (Cherry ballart)	*					

DICOTYLEDONS (Cont'd)

Gonocarpus tetragyna (Common raspswort)

Helichrysum apiculatum (Common everlasting)

Hibbertia sericea (Silky guinea flower)

Hibbertia stricta (Erect guinea flower)

Hypericum gramineum (Small St. John's wort)

Kennedia prostrata (Running postman)

Leptorhynchus squamatus (Scaly buttons)

Leptospermum juniperinum (Prickly tea tree)

Lythrum hyssopifolia (Small loosestrife)

Muehlenbeckia adpressa (Climbing lignum)

Pimelea curviflora (Curved rice flower)

Pimelea humilis (Small/common rice flower)

Pimelea octophylla (Woolly rice flower)

Plantago varia (Variable plantain)

Platylobium obtusangulum (Common flat pea)

Rubus parvifolius (Small leaf bramble)

Stylidium graminifolium (Grass trigger plant)

Wahlenbergia gracilentia (Annual blue bell)

Wahlenbergia sp. (Blue bell)

INTRODUCED SPECIES

Aira elegantissima (Silvery hair grass)

Albizia lophantha (Cape wattle)

Anagallis arvensis (caerulea) (Blue pimpernel)

Arctotheca calendula (Cape weed)

Asphodelus fistulosus (Onion weed)

Avena fatua (Wild oat)

Briza maxima (Large quaking grass)

Briza minor (Lesser quaking grass)

Centaurium erythraea (Common centaury)

Chamaecytisus proliferus (Tree lucerne)

Coprosma repens (Looking glass bush)

Cotoneaster sp.

Cupressus sp. (macrocarpa) (Cypress)

Cyperus eragrostis (Umbrella sedge)

1989			1990		
10/11	11/11	9/12	15/9	12/10	10/11
*	*		*	*	*
*	*		*	*	*
	*			*	*
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*	*			*	*
		*			*
*			*		
	*	*	*	*	
		*			*
		*	*		*

INTRODUCED SPECIES (Cont'd)

Echium plantagineum (Patterson's Curse)		*				*
Erodium cicutarium (Common heron's bill)	*			*	*	
Foeniculum vulgare (Fennel)		*	*		*	*
Fumaria muralis (Fumitory)	*					
Geranium dissectum (Cut leaf crane's bill)		*				*
Holcus lanatus (Yorkshire fog)	*	*	*	*	*	*
Hypochoeris radicata (Cat's ear/Flat weed)		*	*	*		*
Juncus articulatus (Jointed rush)						*
Lotus angustissimus (Slender Bird's-foot trefoil)		*				
Lotus hispidus (Hairy Bird's-foot trefoil)						*
Melilotus indica (Sweet melilot)		*				*
Oxalis pre-capre (Soursob)			*			*
Oxalis purpurea (Large flowered wood sorrel)	*	*		*	*	*
Parentucella viscosa (Sticky bartsia)			*	*		
Plantago lanceolata (Ribwort)						*
Pinus radiata (Monterey pine)						*
Polygala myrtifolia (Myrtle-leaved milkwort)						*
Prunus sp. (? Pyrus or Malus)						*
Quercus sp. (Oak species)		*			*	
Romulea rosea (Common onion grass)	*				*	*
Romulea rosea var. australis (Onion grass)	*				*	*
Rosa rubiginosa (Briar rose)		*				*
Rumex acetosella (Sheep's sorrel)	*				*	*
Rumex crispus (Curled dock)				*		
Salvia verbenaca (Wild sage)		*				
Sherardia arvensis (Field madder)		*				
Silybum marianum (Variagated thistle)		*				
Sisymbrium orientale (Mustard)						*
Sonchus oleraceus (Common sow thistle)		*	*	*	*	*
Teline linifolia (Flax leaf broom)	*				*	*
Trifolium arvense (Hare's-foot clover)		*				
Trifolium dubium (Suckling clover)		*				*

INTRODUCED SPECIES (Cont'd)*Ulex europaeus* (Gorse/furze)*Vicia sativa* (Common vetch)*Vulpia bromoides* (Rat's tail fescue)*Watsonia bulbilifera*(Bulbil *Watsonia*/Merian's bulbil lily)

1989			1990		
10/11	11/11	9/12	15/9	12/10	10/11
*		*	*	*	*
	*			*	*
					*
	*	*			*

What is the cause of the marked deficiency of rainfall between Geelong and Bacchus Marsh?

by Dave King

(Continued from Volume 29, No. 1)

Discussion

From Fig. 1 it is obvious that the Otway Ranges will have a degree of influence upon the rainfall in those areas in the lee of a south west wind. This south west wind brings to the Werribee Plains by far the greatest amount of rainfall in relation to all other wind directions as shown in Table 1. By the same token the Otways must influence the rainfall in areas in their lee that do not fall within the 500mm isohyet, as shown in Table 2. Therefore it would seem that some additional factors are influencing the rainfall on the Werribee Plains.

It is a possibility that although records are used from the Ford station and the Geelong station covering the same period of time, variations between these two stations and others in surrounding areas may follow diverse patterns, and therefore create anomalies. A check was made on their conformity and is revealed in Fig. 2, which shows the yearly variations in rainfall of a number of stations relevant to the area. It can be seen that a very close relationship of yearly average rainfalls is maintained. Therefore any variations between good and poor rainfall years correspond at all stations in the area.

Again from Table 1 it will be seen that rainfall is greatest for wind in the quarter from south, through south west to north west. Taking the southerly wind direction first, this wind blows straight from the Bass Strait over the Bellarine Peninsula, which as indicated in Fig. 7 will have little orographic effect. The You Yangs that are of small extent in area will not have any influence on the majority of the Werribee Plains. It would appear, therefore, that southerly winds are not subject to any significant influence, and as shown in Table 3 winds from the both have the highest proportion of all wind directions.

Table 3

Percentage of winds in various directions on the occasions when rainfall was recorded simultaneously at the Ford and Geelong Weather Stations

Wind direction on the occasion when rain fell	Percentage for the period Aug. 1973 to July, 1976
N	12.87
NE	5.60
E	7.49
SE	13.90
S	18.02
SW	14.04
W	16.30
NW	11.78
	100.00

Winds from the south west have already been referred to and as stated the Otway Ranges would have the affect of reducing the rainfall on the Werribee Plains. As illustrated in Fig. 10, the orographic influence in reducing rainfall over the traverse from the coast is obvious.

Westerly winds also bring a large percentage of the rainfall to the Werribee Plains. These winds would have travelled a considerable distance over the Western District with very little change in elevation and mostly of a gradual nature. The last 50km would be traversed over a topography generally as shown in Fig. 8. It will be seen that over the last 10km a relatively sharp drop in elevation would be experienced, some 200m in fact.

This reduction in elevation would have one, and possibly two effects. Firstly the westerly air stream in falling through the 200m would experience adiabatic warming with the consequent increase in capacity to retain moisture. Under some conditions where light rainfall occurs just prior to the air stream's descent to the Plains, this increase in the dew point of about 0.4 C would tend to reduce the amount of the rainfall and in some instances cause it to cease. The second possible effect of the sharp descent is to cause a turbulent rotor type of condition over the base of the descent. This would have the effect of mixing the warmer lower air strata with the cooler upper layers and again raise the dew point. (Mather, 1974).

Only on one occasion (6th Oct., 1976) has it been possible to personally observe a westerly wind in rainy conditions as it traversed from the Western District across to the Plains. The appearance of the cloud approaching the Wer-

ribee Plains from the west was that of stratus. Immediately over the descent point the stratus appeared to form a roller and progressively break-up as it proceeded across the Plains revealing cumulo nimbus that could only be inferred previously by the regions of heavy showers falling in the west at separate points. As this was observed mid-morning it was thought possible that the direction of the sun might give the appearance that cloud to the west was a complete cover and not progressively broken, as was observed, to the east across the Plains. Observation through the course of the day, however, revealed that the same appearance still prevailed, i.e. heavy unbroken stratus with areas of heavy shower activity approaching the Plains, beginning to break-up and disperse as it crossed the Plains, revealing the cumulo nimbus formations which tended to continue their shower activity.

The shower activity over the Plains appeared to be of more sharply defined areas, estimated at 2km to 4km in extent, whereas over the Western District they appeared more as heavy shower regions within a greater zone of lighter rain.

The other wind directions, north and north west, that provide a relatively high rainfall on the Plains, also encounter a fairly sharp descent and of a greater amount. Fig. 9. The conditions, and, therefore the results, can be assumed to be similar to those prevailing for westerly winds. In addition north easterly winds when associated with rain, although of low frequency, would again experience similar conditions of sharp descent to the Plains Fig. 4.

Easterly winds are not the lowest frequency and provide the minimum amount of rain to the Plains, and therefore are relatively unimportant in this exercise. As is seen from Fig. 5 and 8, little orographic effect would be encountered until after passing over the Werribee Plains and rising up to the Western District beyond.

South east winds usually have traversed a considerable distance over the ocean immediately before encountering the Bellarine Peninsula, Fig. 6. It can be expected that orographic rains would be produced which is supported by the somewhat higher rainfalls recorded than those of other stations close to the Werribee Plains.

So far the most prevalent conditions have been discussed, those in which a definite wind is blowing. The wind speed usually falls within the range 5km to 15km per hour in rainy conditions, although squalls do occur with winds of considerable speed, they are usually of relatively short duration. Discussions and interviews with personnel at the Ford Proving Ground revealed that the majority of rainfall occurred with a breeze blowing from the quarter south to west. Almost invariably the rainfall would be of medium to heavy showers, localized and short in duration, often in rapid succession. Between these showers would be fine intervals. Calm, overcast conditions with prolonged drizzle was a rare occurrence.

Another possible factor, and one which would require a considerable amount of research in order to make a pronouncement upon, is the effect that katabatic winds might have upon the rainfall. Referring to Fig. 1, it is quite conceivable of a katabatic wind flowing down from the Dividing Range in the north. Under certain conditions, say perhaps moist air flowing in at night from the ocean over the Plains still retaining a high temperature from diurnal heating sufficient to cause instability and rain to result. This flow could conceivably be opposed by a katabatic wind blowing across the Plains in the opposite direction such as to retard or prevent the maritime wind from flowing over the Plains.

At the same time the katabatic wind may have the additional effect of cooling the Plains and thus reduce the convective potential of this area while surrounded areas retain theirs.

Conclusions

The premise that the Otway Ranges play a large part in the reduction of rainfall in their lee is not disputed and is indeed endorsed. However, the fact that rain brought to the Werribee Plains by a considerable proportion of winds that are not in anyway affected by the Otways does imply that some local features are responsible for the rainfall deficit.

Southerly winds that bring a large proportion of the total rainfall to the area traverse for only a short distance, land which has no great elevation and is therefore not considered to be affected to any appreciable extent. Likewise, for winds from the sector north east through east to south east the same applies.

The main effect is considered to be the fall in elevation at the edge of the Werribee Plains and the consequent dispersion of the strato cumulus cloud, which has been contributing drizzle type of rain in the surrounding areas before reaching the Plains, leaving only the localized showers from cumulo nimbus clouds to continue falling on the Plains.

It is also considered that katabatic winds flowing on to the Plains from the north would affect rainfall, but this is not demonstrable with the data and facts presented herein. It is, perhaps, a course study that might prove to be profitable and of wide interest.

Acknowledgements

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References

- Atlas of Australian Resources-Climatic Regions, Dept. National Development, Ref. A102/20.13 Jan. 1954 and Ref. A102/20. 4 Aug. 1952.
- Commonwealth Bureau of Meteorology, Australian Water Resources Council, Monthly Rainfall and Evaporation, Melb. 1968.
- Commonwealth Bureau of Meteorology, Rain and Rainfall Victoria, 1840-1910.
- Eldridge, R.H. Katabatic Winds at Driffield, Meteorological Magazine, London, 80, p. 234, 1951.
- Land Conservation Council, Victoria, Report on the Melbourne Study Area, Melbourne, Dec. 1973.
- Mather, J.R. 1974, Climatology, McGraw-Hill.
- Ward, F.W. Helm Wind Effect at Ranoldsway, Isle of Man, Meteorological Magazine, London, 82, p. 234, 1953.
- Wolfson, N., Topographical Effects on Standard Normals of Rainfall Over Israel, Weather, Vol. 30, pp. 138-144, May, 1975.
- Woodcock, A.A. Anomalous Orographic Rains of Hawaii. Monthly Weather Review, Vol. 103, pp. 334-343, April, 1975.

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PROGRAM

DECEMBER 1992

- 1 General meeting: Members night. Christmas Caserole tea - 7.30 p.m. start
- 5 Plant Group excursion: Barwon Downs
- 8 Plant Group meeting & excursion: Ocean Grove Nature Reserve

JANUARY 1993

- 9 Excursion: Barwon River - Reedy Lake Walk
Leaders: Don White (Ph: 841487) & Valda Dedman (Ph: 432374)
- 23/25 Campout: Mt. Buller/Mt. Stirling
Leader: Les Barrow (Ph: AH 437650 - W. 262545)
- 26 Bird Group meeting: "Travelling North" - Ray Baverstock

FEBRUARY

- 2 General meeting: "Land for Wildlife" & "Indigenous Gardens" - Graeme Stockton
- 4 Plant Group excursion: Urquart's Bluff
- 9 Plant Group meeting: "Mt. Stirling Flora" - Les Barrow
- 21 Excursion: Buckleys to the Break. Canoe, walk or ride. Leaders: Barry Lingham (Ph: 554291) & Grame Tribe (Ph: 552302)
- 23 Bird Group meeting: "Galahs more than meets the Eye" - Helen Aston

MARCH

- 2 General meeting: "Waders Here & There" - Margaret Cameron
- 6/8 W.V.F.N.C.A. Campout: Timboon
- 9 Plant Group meeting: "West Otways Flora"
- 21 Excursion: Corio Bay & Pt. Henry East - Leaders: Pat Russell (Ph: 482734) & Paul Moore (Ph: 431869)
- 23 Bird Group meeting: "Bustards" Don White

APRIL

- 6 Annual General meeting: Members Night
- 13 Plant Group meeting: "Flora Reserve Management" - John Budd
- 18 Excursion: Burnley Horticultural College & Maranoa Gardens. Coach trip. Leader: Diana Primrose (Ph: 501811)
- 27 Bird Group meeting: "The Regent Honeyeater" - Don Franklin

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